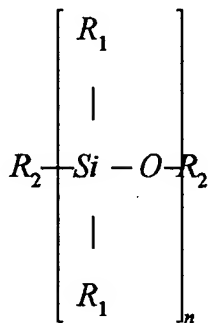


**What is Claimed is:**

1. An elastomer-modified epoxy siloxane composition prepared by combining:

water;

a silicone intermediate having the formula



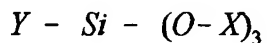
where each  $R_1$  is selected from the group consisting of hydroxy, alkyl, aryl and alkoxy groups having up to six carbon atoms, each  $R_2$  is selected from the group consisting of hydrogen, alkyl, and aryl groups having up to six carbon atoms and, wherein  $n$  is selected so that the weight-average molecular weight for the polysiloxane is in the range of from about 400 to 10,000;

a polyfunctional amine curative agent;

an epoxy resin having at least two 1,2-epoxide groups; and

an elastomeric resinous intermediate having a functionality selected from the group consisting of hydroxyl, epoxy, isocyanate, carboxyl, mercaptan, and amine.

2. The elastomer-modified epoxy siloxane composition as recited in claim 1 wherein the polyfunctional amine curative is an aminosilane having the general formula



where Y is  $H(HNR)_a$  and where "a" is an integer of from 1 to 6, R is a difunctional organic radical independently selected from the group consisting of aryl, alkyl, dialkylaryl, alkoxyalkyl, and cycloalkyl radicals, and where X is limited to alkyl, hydroxyalkyl, alkoxyalkyl or hydroxyalkoxyalkyl groups containing less than about six carbon atoms.

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3. The elastomer-modified epoxy siloxane composition as recited in claim 1 additionally comprising at least one metal catalyst to facilitate cure at ambient temperature, wherein the catalyst is selected from the group consisting of zinc, manganese, zirconium, titanium, cobalt, iron, lead, and tin each in the form of octonates, neodecanates, or naphthanates.

10

4. The elastomer-modified epoxy siloxane composition as recited in claim 1 wherein the elastomeric resinous intermediate is selected from the group consisting of epoxy resins, polybutene resins, polybutadiene resins, acrylonitrile resins, polysulfide resins, and combinations thereof.

15

5. The elastomer-modified epoxy siloxane composition as recited in claim 1 wherein the silicone intermediate is selected from the group consisting of alkoxy and silanol-functional polysiloxanes having viscosity of from about 3,000 to 15,000 centipoise (cP) at 20°C.

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6. The elastomer-modified epoxy siloxane composition as recited in claim 1 wherein the epoxy resin ingredient is selected from the group consisting of epichlorohydrin-bisphenol A epoxy resins, epichlorohydrin bisphenol F epoxy resins, hydrogenated bisphenol A epichlorohydrin epoxy resins, glycidyl methacrylate resins, glycidyl esters, phenol novolac epoxy resins, resorcinol-modified epoxy resins, and combinations thereof.

25

7. An elastomer-modified epoxy siloxane composition prepared by combining:

a silicone intermediate selected from the group consisting of alkoxy and silanol-functional polysiloxanes having a weight-average molecular weight in the range of from about 400 to 10,000;

an aminosilane curative having the general formula



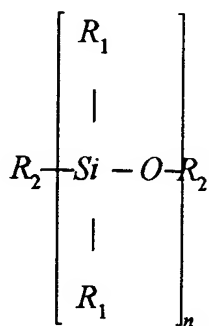
where Y is  $H(HNR)_a$  and where "a" is an integer in the range of from 1 to 6, R is a difunctional organic radical independently selected from the group consisting of aryl, alkyl, dialkylaryl, alkoxyalkyl, and cycloalkyl radicals, and where X is limited to alkyl, hydroxalkyl, alkoxyalkyl or hydroxyalkoxyalkyl groups containing less than about six carbon atoms;

10 an epoxy resin having at least two 1,2-epoxide groups; and

an elastomeric resinous intermediate having a functionality selected from the group consisting of hydroxyl, epoxy, isocyanate, carboxyl, mercaptan, and amine, and being selected from the group consisting of epoxy resins, polybutene resins, polybutadiene resins, acrylonitrile resins, polysulfide resins, and combinations thereof.

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8. The elastomer-modified epoxy siloxane composition as recited in claim 7 wherein the silicone intermediate has the formula



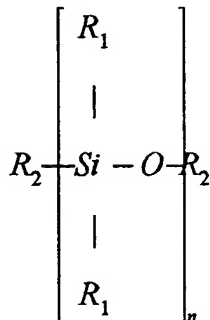
where each  $R_1$  is selected from the group consisting of hydroxy, alkyl, aryl and alkoxy groups having up to six carbon atoms, each  $R_2$  is selected from the group consisting of hydrogen, alkyl, and aryl groups having up to six carbon atoms.

5                    9.        The elastomer-modified epoxy siloxane composition as recited in claim  
7 wherein the epoxy resin ingredient is selected from the group consisting of epichlorohydrin-  
bisphenol A epoxy resins, epichlorohydrin bisphenol F epoxy resins, hydrogenated bisphenol  
A epichlorohydrin epoxy resins, glycidyl methacrylate resins, glycidyl esters, phenol novolac  
epoxy resins, resorcinol-modified epoxy resins, and combinations thereof.

10                   10.       The elastomer-modified epoxy siloxane composition as recited in claim  
7 additionally comprising at least one metal catalyst to facilitate cure at ambient temperature,  
wherein the catalyst is selected from the group consisting of zinc, manganese, zirconium,  
titanium, cobalt, iron, lead, and tin each in the form of octonates, neodecanates, or  
15        naphthanates.

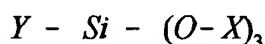
                     11.       The elastomer-modified epoxy siloxane composition as recited in claim  
7 comprising in the range of from about 1 to 40 percent by weight silicone intermediate, 1 to  
15 percent by weight polyfunctional amine, 5 to 60 percent by weight epoxy resin, and 1 to 25  
20       percent by weight elastomeric resinous intermediate.

                     12.       An elastomer-modified epoxy siloxane composition prepared by  
combining:  
                     water;  
25                   a silicone intermediate having the formula



where each  $R_1$  is selected from the group consisting of hydroxy, alkyl, aryl and alkoxy groups having up to six carbon atoms, each  $R_2$  is selected from the group consisting of hydrogen, alkyl, and aryl groups having up to six carbon atoms and, wherein  $n$  is selected so that the weight-average molecular weight for the polysiloxane is in the range of from about 400 to 10,000;

an aminosilane curative having the general formula



where  $Y$  is  $H(HNR)_a$  and where “ $a$ ” is an integer in the range of from 1 to 6,  $R$  is a difunctional organic radical independently selected from the group consisting of aryl, alkyl, dialkylaryl, alkoxyalkyl, and cycloalkyl radicals, and where  $X$  is limited to alkyl, hydroxalkyl, alkoxyalkyl or hydroxyalkoxyalkyl groups containing less than about six carbon atoms;

an epoxy resin having more than one 1,2-epoxide groups per molecule with an epoxide equivalent weight in the range of from 100 to about 5,000; and

an elastomeric resinous intermediate having a functionality selected from the group consisting of hydroxyl, epoxy, isocyanate, carboxyl, mercaptan, and amine, and being selected from the group consisting of epoxy resins, polybutene resins, polybutadiene resins, acrylonitrile resins, and combinations thereof.

13. The elastomer-modified epoxy siloxane composition as recited in claim 12 additionally comprising at least one metal catalyst to facilitate cure at ambient temperature, wherein the catalyst is selected from the group consisting of zinc, manganese, zirconium, titanium, cobalt, iron, lead, and tin each in the form of octonates, neodecanates, or naphthanates.

14. The elastomer-modified epoxy siloxane composition as recited in claim 12 wherein the epoxy resin ingredient is selected from the group consisting of epichlorohydrin-bisphenol A epoxy resins, epichlorohydrin bisphenol F epoxy resins, hydrogenated bisphenol A epichlorohydrin epoxy resins, glycidyl methacrylate resins, glycidyl esters, phenol novolac epoxy resins, resorcinol-modified epoxy resins, and combinations thereof.

15. The elastomer-modified epoxy siloxane composition as recited in claim 12 comprising in the range of from about 1 to 40 percent by weight silicone intermediate, 1 to 15 percent by weight polyfunctional amine, 5 to 60 percent by weight epoxy resin, and 1 to 25 percent by weight elastomeric resinous intermediate.

16. A method for making a fully-cured thermosetting elastomer-modified epoxy siloxane composition comprising the steps of:

forming a resin component by combining:

an alkoxy or silanol-functional polysiloxane; with

an epoxy resin; and

an elastomeric resinous intermediate having a functionality selected from the group consisting of hydroxyl, epoxy, isocyanate, carboxyl, mercaptan, and amine, and being selected from the group consisting of epoxy resins, polybutene resins, polybutadiene resins, and combinations thereof; and

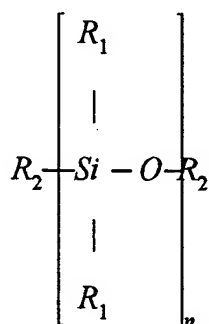
curing the resin component in the presence of water at ambient temperature by adding thereto:

a polyfunctional amine ingredient; and  
an organotin catalyst.

17. A method for making a fully-cured elastomer-modified epoxy siloxane  
composition comprising the steps of:

forming a resin component by combining:

a polysiloxane having the formula



where each  $R_1$  is selected from the group consisting of hydroxy, alkyl,  
aryl, and alkoxy groups having up to six carbon atoms, each  $R_2$  is selected from  
the group consisting of hydrogen, alkyl, and aryl groups having up to six  
carbon atoms and, wherein  $n$  is selected so that the weight-average molecular  
weight for the polysiloxane is in the range of from about 400 to 10,000; with  
an epoxy resin having more than one 1,2-epoxide groups per molecule  
and having an epoxide equivalent weight in the range of from 100 to about  
5,000; and

an elastomeric resinous intermediate having a functionality selected from  
the group consisting of hydroxyl, epoxy, isocyanate, carboxyl, mercaptan, and

amine, and being selected from the group consisting of epoxy resins, polybutene resins, polybutadiene resins, and combinations thereof; and

curing the resin component in the presence of water at an ambient temperature

by adding to it:

5

an organotin catalyst; and

an aminosilane curative agent.